

What is claimed is:

1 1. A plug detection circuit, disposed in a
2 electronics device with an earphone jack, wherein the
3 earphone jack has a first pin and a second pin, the
4 detection circuit comprising:

5 a first detection circuit electrically coupled to
6 the first pin to output a first logic potential
7 when the earphone plug is electrically coupled
8 to the first pin of the earphone jack; and

9 a second detection circuit electrically coupled to
10 the second pin to output a second logic
11 potential when the earphone plug is
12 electrically coupled to the second pin of the
13 earphone jack;

14 wherein the presence of microphone function in the
15 connected earphone is detected according to the
16 first logic potential and the second logic
17 potential.

1 2. The plug detection circuit as claimed in claim
2 1, wherein the first and second logic potentials are low
3 when no plug is connected to the earphone jack.

1 3. The plug detection circuit as claimed in claim
2 1, wherein the first and second logic potentials are high
3 when the earphone plug plugged in the earphone jack is of
4 a typical earphone.

1 4. The plug detection circuit as claimed in claim
2 1, wherein the first logic potential is high and the

3 second logic potential is low when a plug of an earphone
4 with a microphone function is connected.

1 5. The plug detection circuit as claimed in claim
2 1, wherein the plug further has a grounded conductive
3 ring and the earphone jack further has a third pin, the
4 grounded conductive ring and the third pin are coupled to
5 ground together when the plug is connected to the
6 earphone jack.

1 6. A plug detection circuit, disposed in a
2 electronics device with an earphone jack, wherein the
3 earphone jack has at least a first pin, a second pin and
4 a third pin, the detection circuit comprising:

5 a first resistor electrically coupled to a voltage
6 source and the first pin respectively;

7 a second resistor electrically coupled to the first
8 pin;

9 a first capacitor having one end electrically
10 coupled to a first output terminal with the
11 second resistor, and the other end coupled to
12 ground, wherein the potential at the first
13 output terminal is a first logic potential;

14 a third resistor having one end electrically coupled
15 to the third pin;

16 a fourth resistor electrically coupled to the
17 voltage source and the second pin respectively;

18 a fifth resistor having one end electrically coupled
19 to the second pin;

20 a second capacitor having one end electrically
21 coupled to the fifth resistor, and the other
22 end coupled to ground;
23 a sixth resistor having one end electrically coupled
24 to the voltage source; and
25 a switch having one end electrically coupled to the
26 sixth resistor, and the other end coupled to
27 ground, wherein the switch further has a
28 control terminal electrically coupled to a
29 second output terminal with the second
30 capacitor and the fifth resistor, and the
31 potential at the second output terminal is a
32 second logic potential.

1 7. The plug detection circuit as claimed in claim
2 6, wherein the first pin is electrically coupled to the
3 third pin and the switch is turned on when no plug is
4 connected to the earphone jack, and the first logic
5 potential and the second logic potential are low.

1 8. The plug detection circuit as claimed in claim
2 6, wherein the plug connected is of a typical earphone
3 with a first conductive ring and a grounding ring; the
4 second pin, the first conductive ring and the ground ring
5 are electrically coupled to ground together, the first
6 pin is not electrically coupled to the third pin, and the
7 switch is turned off when the plug is connected to the
8 earphone jack; and the first logic potential and the
9 second potential are both high.

1 9. The plug detection circuit as claimed in claim
2 6, wherein the plug connected to the earphone jack is of
3 an earphone with microphone function and has a first
4 conductive ring, a second conductive ring and a grounding
5 ring; the first conductive ring is electrically coupled
6 to the grounding ring, the second conductive ring is
7 electrically coupled to the second pin, the first pin is
8 not electrically coupled to the third pin, and the switch
9 is turned on when the plug is connected to the earphone
10 jack; and the first logic potential is high and the
11 second potential is low.